

Title (en)

METHOD FOR LEARNING AN ADMISSIBLE STEERING ANGLE BY A VEHICLE STEERING DEVICE

Title (de)

VERFAHREN ZUM ANLERNEN ZULÄSSIGER LENKWINKEL BEI EINER LENKEINRICHTUNG EINES KRAFTFAHRZEUGS

Title (fr)

PROCÉDÉ POUR L'APPRENTISSAGE D'UN ANGLE DE BRAQUAGE ADMISSIBLE D'UN DISPOSITIF DE DIRECTION DE VÉHICULE

Publication

**EP 3256364 B1 20181031 (DE)**

Application

**EP 16701416 A 20160123**

Priority

- DE 102015001764 A 20150211
- EP 2016000119 W 20160123

Abstract (en)

[origin: WO2016128108A1] The invention relates to a method for teaching permissible steering angles in a steering device of a motor vehicle, wherein mechanical and/or software-based stops limiting the steering angles are present or are temporarily applied on the motor vehicle, and wherein both the steering force applied to the steering wheel and the steering angle on the input of the steering gear are directly or indirectly determined and evaluated by means of sensors. A superimposition steering system is provided, wherein a superimposed steering angle is imposed by means of the superimposition gearbox (6) on the steering angle generated by the actuation of a steering wheel (3), controlled by a control unit (12), which superimposed steering angle increases or reduces the steering angle depending on the measured driving dynamics parameters. A memory (15) is also provided, which can be accessed by the control unit (12) controlling the superimposition steering (1) and in which steering parameters are stored for different driving dynamics parameters. Further information can be stored in the memory (15) concerning at least one permissible steering angle (LW1(right) to LWn(right). LW1(left) to LWn(left)) for each steering direction. In a teaching routine executed using the control unit (12), a steering force is manually applied on the steering wheel (3) successively in both directions, and the value thereof directly or indirectly determined and then, if the applied steering force exceeds a respective predetermined value and after elapsing of a predetermined time period, the steering angle present on the output of the superimposition gearbox (6) is directly or indirectly determined by the control unit (12) and defined as an absolute maximum steering angle (LWmax(right), LWmax(left)) for the respective steering direction. After determining the absolute maximum steering angles (LWmax(right). LWmax(left)) for both steering directions of the steering wheel (3), at least one respective permissible steering angle (LW1(right) to LWn(right)> LW1(left) to LWn(left)) is calculated for each steering direction by the control unit (12), assigned to the stored steering parameters, and stored in the memory (15).

IPC 8 full level

**B62D 5/04** (2006.01); **G06N 20/00** (2019.01)

CPC (source: EP US)

**B62D 5/0469** (2013.01 - EP US); **B62D 5/0481** (2013.01 - US); **B62D 6/002** (2013.01 - US); **G06N 20/00** (2018.12 - EP US)

Cited by

CN109656257A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**DE 102015001764 A1 20160811**; **DE 102015001764 B4 20160915**; EP 3256364 A1 20171220; EP 3256364 B1 20181031; US 10106192 B2 20181023; US 2018237062 A1 20180823; WO 2016128108 A1 20160818

DOCDB simple family (application)

**DE 102015001764 A 20150211**; EP 16701416 A 20160123; EP 2016000119 W 20160123; US 201615550077 A 20160123